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Design of Orientation-Free Handler and Fuzzy Controller for Wire-Driven Heavy Object Lifting System

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Abstract : This paper presents an intention interface and controller for a wire-driven heavy object lifting system that assists the operator with moving a heavy object. The handler is designed to allow a comfortable working posture for the operator. Plus, as a human assistive system, the operator is involved in the control loop, where a fuzzy control system is used to consider the human control characteristics. The effectiveness and performance of the proposed system are proved by experiments.

Keywords : fuzzy controller, handler design, heavy object lifting system, human-assistive device, human-in-the-loop system
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